



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,162	06/17/2005	Theodore J Nitz	1282-P02959US01	2828
110	7590	02/29/2008		
DANN, DORFMAN, HERRELL & SKILLMAN			EXAMINER	
1601 MARKET STREET			KOSACK, JOSEPH R	
SUITE 2400			ART UNIT	PAPER NUMBER
PHILADELPHIA, PA 19103-2307			1626	
		MAIL DATE	DELIVERY MODE	
		02/29/2008	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,162	<b>Applicant(s)</b> NITZ ET AL.
	<b>Examiner</b> Joseph R. Kosack	<b>Art Unit</b> 1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

#### Status

- 1) Responsive to communication(s) filed on 17 June 2005.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-35 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08e)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 1-35 are pending in the instant application.

#### ***Priority***

The claim to priority as a 371 filing of PCT/US03/25165 filed August 11, 2003, which claims priority to 60/402,450 filed August 9, 2002 is acknowledged in the instant application.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

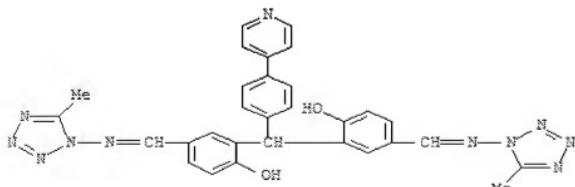
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nitz et al. (WO/99/38508 A1).

The instant claims are drawn to compounds and compositions of formula I where R1 can be HET.

Nitz et al. teach the compound



which reads on the

claims where R1 is pyridine. See page 27, lines 14-15. Nitz et al. also teach combining the compounds with a pharmaceutically acceptable carrier. See page 10, lines 20-23.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

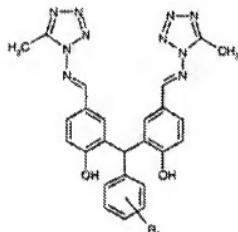
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

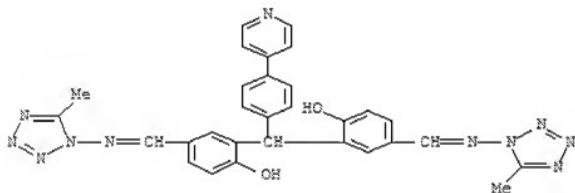
Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitz et al. (WO/99/38508 A1) in view of DeLuca et al. (*Pharma. Dosage Forms Vol 1: Parenteral Medications*, 1992, 173-175).

The instant claims are drawn to compounds of formula I



with substitutions as defined, compositions comprising compounds of formula I with various amounts of ethanol and water, and methods of use of the compounds of formula I to treat a pneumovirus infection.

Nitz et al. teach the compound



which corresponds to the claims where R1 is pyridine and in the 4-position. See page 27, lines 14-15. Nitz et al. also teach combining the compounds with a pharmaceutically acceptable carrier. See page 10, lines 20-23. Finally, Nitz et al. teach the method of treating pneumovirus infections with the compounds. See page 11, line 8 to page 14, line 10.

Nitz et al. does not teach where R1 is in the 3-position, the quantities of ethanol, water, etc.. in the composition, and all of the possibilities that R1 can be in the instant application.

DeLuca et al. teach that parenteral formulations usually are aqueous solutions, but in other situations, water may have to be eliminated or reduced to prevent chemical degradation. Additionally, suitable cosolvents such as ethanol and polyethylene glycol. See page 175, Section B. Even though the exact parameters are not taught, one of ordinary skill in the art would be able to determine them through routine optimization.

Additionally, the compound of Nitz et al. is a positional isomer of some of the instantly claimed compounds. The court in In re Norris (84 USPQ 458 (1950)) stated:

The Norris textbook contains the following:

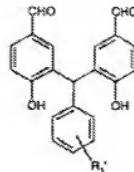
There are many organic compounds which have the same percentage composition; for example 107 compounds having the formula C<sub>9</sub>H<sub>16</sub>O<sub>2</sub>N have been described. Such compounds are called isomers (signifying equal measure) and the phenomenon is known as *isomerism*. When two isomers resemble each other closely in chemical properties they are said to be *metameric*. (Italics quoted.)

In view of what has been quoted from the textbook authorities, we think it is conclusively established that structural isomers have defined predictable physical properties, and that the chemical similarity in such a large group justifies the coining of the term "metameric" to characterize such isomeric compounds. The statement made in the Jones case, *supra*, that isomers possess similar chemical and physical properties is thus shown to have ample basis in the authorities, and that case, as well as the Finley case, *supra*, are proper precedents to support the rejection of a

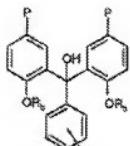
novel compound which is isomeric with compounds of the prior art, where the new compound is not shown to possess new and unexpected utilities. (citations omitted)

Finally, the court in In re Wood, Whittaker, Stirling, and Ohta (199 USPQ 137) state that compounds with similar structures are expected to have similar properties unless there is evidence on the record of secondary considerations. In the instant case, the same pentacyclic core structure is present between the instant case and Nitz et al. Along with evidence of conserved utility when the substituent on the middle phenyl ring is modified. Therefore, one of ordinary skill in the art would expect that putting a different substituent on that phenyl ring will yield another compound capable of treating pneumovirus. Therefore, the claims are *prima facie* obvious over the prior art.

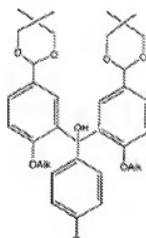
Claims 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitz et al. (WO/99/38508 A1).



The instant claims are drawn to intermediates of the formulae:

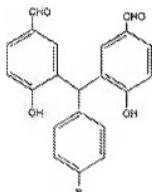


and where  $R_b$ ,  $R_1'$  and  $R_1''$  are as defined and P is a protected formaldehyde group.



Nitz et al. teach compounds of the formulae

and



where  $R$  is as defined. See page 7, Scheme A.

Nitz et al. do not specifically teach where R1' and R1" are as defined in the instant claims.

Nitz et al. teach a compound where R is pyridine in the final product. By going through Scheme A, compounds which would correspond to where R1' and R1" are HET would be generated. See page 27, lines 14-15.

Therefore, the claims are *prima facie* obvious over the prior art.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph R. Kosack whose telephone number is (571)272-5575. The examiner can normally be reached on M-Th 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/524,162  
Art Unit: 1626

Page 9

/Joseph R Kosack/  
Examiner, Art Unit 1626

/Kamal A Saeed, Ph.D./  
Primary Examiner, Art Unit 1626